Automated Dispensing Cabinet Improvements Implemented In Army Hospitals To Decrease Medication Errors

Automatic Dispensing Cabinets (ADCs) are the primary means of storing, dispensing, controlling and tracking medications in U.S. Army Medical Treatment Facilities (MTFs) and continue to be a reported indicator for medication errors. Effectiveness measures, utilization shortcomings, medication error rates, and recommendations for the safe use of ADCs were identified in this research. ADC technology incorporates multiple processes and multi-disciplinary (multi-D) access. User friendly systems and back-up checks are the focus for reducing medication errors. Review of the literature focused on competency; technology; human error; medication errors after technology implementation; innovation, ideas and error prevention; and education and training strategies to reduce errors. The Institute for Safe Medication Practices ADC Self Assessment was administered twice, 18 months apart, to 10 U.S. Army MTFs. Several educational presentations by the ISMP and the U.S. Army Medical Command Patient Safety Program were available between the two assessments. Results and recommendations were two-fold focusing on improvements made among the 10 MTFs plus notable comparative data from 380 U.S. civilian hospitals who participated in ISMP's nation-wide assessment as well. Confidence distributions showed seventy-five percent of the self assessment processes showed significant differences among the 10 MTFs. Self assessment comparative data among military and civilian hospitals indicated that the civilian hospitals reported an overall 78% maximum compliance rate while the ten U.S. Army hospitals reported a pre self assessment compliance rate of 81% and a post self assessment compliance rate of 86%. The 10 U.S. Army hospitals improved by an average of 5% between pre and post self assessments. Continued multi-D

leadership support and improvement strategies were emphasized. The ISMP self assessment acted as a stand-alone checklist for ADC safe use recommendations contributing to medication error reduction strategies.

Key Words: Adverse Drug Event, Automation, Automated Dispensing Cabinets (ADCs), Medical Treatment Facilities (MTFs), Medication Error, Override, Point-of-care, and Patient Safety.